

on a lower portion 104 for mounting switch housing assembly 100 within the end use application, such as for example, with a nut or other threaded fastener (not shown). Thus, switch assembly 100 includes one bullet contact assembly 16 and one terminal stud contact assembly 102 for line and load side electrical connections in the end use application.

[0035] Therefore, a fused disconnect switch housing 100 is provided that facilitates installation to existing equipment without auxiliary components or hand wired connections with at least two mounting options. Switching is achieved by inserting or extracting a fuse, such as fuse 12, from switch housing receptacle 20, and local and remote opened fuse indication provides ready indication of opened fuses for replacement. Because a variety of differently rated fuses are accommodated by switch housing receptacle 20, a versatile fused disconnect system is provided that is suitable for a wide variety of applications.

[0036] Figure 6 illustrates a third embodiment of a switch housing assembly 150 in which common features of switch housing assembly 50 (shown in Figures 3 and 4) and switch housing assembly 100 (shown in Figure 5) are referenced with like reference characters. Switch housing assembly 150 is configured for use with a removable fuse, such as fuse 12 (shown in Figures 1 and 2). Unlike switch housing assembly 50 and 100, switch housing assembly 150 includes first and second terminal stud assemblies 102 in lieu of bullet contact assemblies 16, 18 (shown in Figures 1, 3, and 4). Each terminal stud contact assembly 102 includes a bridge portion 62 extending downwardly from electrically conductive clip 58. Terminal stud contact assemblies 102, in one embodiment, are fabricated from steel and attached to bridge portions 62. In another embodiment, terminal stud contact assemblies 102 are each integrally formed with bridge portions 62 from an electrically conductive material. Each terminal stud contact assembly 102 includes threads (not shown) on a lower portion 104 for mounting switch housing assembly 150 within the end use application, such as for example, with a nut or other threaded fastener (not shown). Thus, switch assembly 150 includes two terminal stud contact assemblies 102 for line and load side electrical connections in the end use application.

[0037] Therefore, a fused disconnect switch housing 150 is provided that facilitates installation to existing equipment without auxiliary components or hand wired connections. Switching is achieved by inserting or extracting a fuse, such as fuse 12, from switch housing receptacle 20, and local and remote opened fuse

indication provides ready indication of opened fuses for replacement. Because a variety of differently rated fuses are accommodated by switch housing receptacle 20, a versatile fused disconnect system is provided that is suitable for a wide variety of applications.

[0038] Figure 7 illustrates a fourth embodiment of a fused disconnect switch assembly 200 configured for higher current applications than the foregoing embodiments, but still maintaining a common footprint. Common features of switch housing assembly 50 (shown in Figures 3 and 4), switch housing assembly 100 (shown in Figure 5), and switch housing assembly 150 (shown in Figure 6) are referenced with like reference characters.

[0039] Assembly 200 is essentially a double-wide version of fused disconnect assembly 10 (shown in Figure 1) and includes a fuse 202 for removable engagement with a switch housing 204. In other words, the construction and operation of fuse 202 and switch housing assembly 204 is substantially similar to that described above in relation to Figures 1-3 with the exception that assembly 200 includes two line-side bullet contact assemblies (only one of which is shown in Figure 7) and two load-side bullet contact assemblies 18 for plug in connection to, for example, a line input bus (not shown) and load-side equipment (not shown), respectively. Likewise, fuse 202 includes four male terminal contacts 30 (only two of which are visible in Figure 7) received in fuse terminal openings (not shown in Figure 7) in a bottom of a fuse receptacle 210.

[0040] When fuse 202 is inserted into fuse receptacle 210, and further when bullet contact assemblies 16, 18 are coupled to line side and load equipment, first and second fused circuits are established in parallel through fuse 202 between each pair of bullet contact assemblies 16 and 18. The load may be disconnected by extraction of fuse 202 from switch housing assembly 204.

[0041] In one embodiment, and as explained further below, fuse 202 includes a first fuse link (not shown in Figure 7) and a secondary fuse link (not shown in Figure 7) extending between each pair of fuse terminal contacts 30 such that the fuse links extend electrically in parallel to one another. Local fuse state indication via LED 38 (shown in Figure 2) and remote opened fuse state indication via fuse alarm terminal 42 (shown in Figure 2) are employed with the parallel fuse links for local and remote fuse state indication, respectively. The primary fuse links are fabricated so

that fuse 202 has a combined rating of 130 to 250 amps and a safety interrupt of 100kA at 80Vdc.

[0042] It is recognized that system 200 could be further extended to obtain even greater amperage ratings, e.g., a triple-wide fuse and switch housing assembly could be employed.

[0043] Figure 8 is an exploded view of a switch housing assembly 204 including substantially identical front and rear housings 220, 222 and a spacer element 224 located therebetween. Each housing 220, 222 includes fuse terminal openings 54 in a bottom 56 of a fuse receptacle 226 that forms approximately one half of fuse receptacle 210 (shown in Figure 7) for receiving fuse terminal blades 30 (shown in Figure 7). Electrically conductive resilient clips 58 are located below each fuse terminal opening 54 and located in cavities 60 below fuse receptacle 226. Bridge portions 62 extend downwardly from each clip 58 and to electrically conductive bullet contact assemblies 16, 18 for connection to either a line input bus (not shown) or a load bus (not shown). When fuse terminals 30 (shown in Figure 1) are inserted through fuse terminal openings 54, fuse terminals 30 are received in clips 58 and thus are electrically coupled to bullet contact assemblies 16, 18 protruding through a bottom 64 of housings 220 and 222.

[0044] Switch housing internal alarm terminal 66 is positioned adjacent one of fuse clips 58 within an adjacent cavity 68 in housing 222, and includes a projecting ridge 70 (shown in Figure 3) at a top end 72 (also shown in Figure 3) that protrudes through an opening 74 (as shown in Figure 3) in a side wall 76 (see Figure 3) of fuse receptacle 226. Thus, when fuse 202 (shown in Figure 7) is fully inserted into fuse receptacle 210 (shown in Figure 7), jointly formed by receptacles 226 of each housing 220, 222, alarm terminal projecting ridge 70 contacts fuse alarm terminal 42 (shown in Figure 2) through housing opening 44 (shown in Figure 2). Internal alarm terminal 66 is further coupled to a remote output alarm terminal (not shown in Figure 8 but similar to terminal 78 shown in Figure 3) that extends through a bottom 64 of switch housing 220 and 222, thereby completing an electrical path for an open fuse alarm signal for transmission to end use equipment (not shown) during an open fuse condition.

[0045] Mounting footings 228 are provided in each housing 220, 222 adjacent fuse receptacles 226, and known fasteners 230 are extended through